

In the claims:

Please amend claims 45, 60, 61, 63, 64, 66, 67, 69, 72, 74 and 86-88 as follows:

1. (previously presented) An aeration control apparatus for a fluid filtration system for removing contaminants from a supply of fluid, comprising:

an aeration tank, having an interior, a fluid inlet into the interior, a diffuser between the fluid inlet and the interior, a fluid outlet from the interior, and a bleed-off tube connecting the tank interior to a drain that allows the fluid and/or gas to bleed off to the drain;

a source of compressed oxidizing gas;

a first valve;

a second valve downstream of the first valve, wherein the first valve has a first position connecting the source of compressed oxidizing gas through a first flow passage to the second valve, the second valve being displaced by gas pressure from the source of compressed oxidizing gas to a first position to open a second flow passage between the source of compressed oxidizing gas and the aeration tank and to connect the bleed-off tube to the drain, and the first valve has a second position closing the source of compressed oxidizing gas from the first flow passage and opening the first flow passage to an atmospheric exhaust; and

a controllable actuator operatively connected to the first valve and having a first state for causing the first valve to assume the first position, and a second state for causing the first valve to assume the second position, wherein the controllable actuator is operable to repeatedly switch between the first state and the second state.

2. (previously presented) The aeration control apparatus of claim 28, wherein the third valve, in addition to being operated by the second valve, is responsive to pressure within the

interior of the aeration tank to open the bleed-off tube to the drain, independent of the operation of the second valve.

3. (previously presented) The aeration control apparatus of claim 29, wherein the first valve is a solenoid valve.

4. (previously presented) The aeration control apparatus of claim 1, wherein the source of compressed oxidizing gas is a compressor.

5. (previously presented) The aeration control apparatus of claim 30, wherein the timer is programmable and wherein the first timing state is less than about four percent of the second timing state.

6. (previously presented) The aeration control apparatus of claim 30, wherein the first timing state is maintained for a period of between about five minutes and about fifteen minutes, and the second timing state is selectable and is maintained for a period of at least approximately four hours.

7. (previously presented) The aeration control apparatus of claim 6, wherein the first timing state extends over a period of about ten minutes, and the selectable second timing state is maintained for a period of between about four hours and about forty-eight hours.

8. (previously presented) The aeration control apparatus of claim 1, wherein the second valve comprises:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the first valve is in the first position, and a second side communicating with the interior of the air tank by way of the bleed-off tube; and

a valve stem that moves with the valve piston, the valve stem having a valve seal positioned on and engagable with a valve seat, the valve stem moved by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed-off tube.

9. (previously presented) A fluid filtration apparatus for removing oxidizable contaminants from a supply of fluid, comprising:

an aeration tank, having an interior, a fluid inlet into the interior, a diffuser between the fluid inlet and the interior, a fluid outlet from the interior, and a bleed-off tube connecting the tank interior to a drain, the bleed-off tube allowing the fluid and/or a gas to bleed off to the drain;

a source of compressed oxidizing gas;

a controllable valve connecting the source of compressed oxidizing gas to a controlled valve, the controlled valve operable by pressure from the source of compressed oxidizing gas to open a flow passage between the source of compressed oxidizing gas and the aeration tank and to connect the interior of the aeration tank through the bleed-off tube to the drain;

a controller operably connected to the controllable valve to operate the controllable valve between first and second positions;

wherein the controlled valve has:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the controllable valve is in the first position, and a second side communicating with the interior of the air tank via the bleed-off tube; and

a valve stem that moves with the valve piston, the valve stem having a valve seal positioned on and engagable with a valve seat, and the valve stem moved by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

10. (previously presented) The water filtration apparatus of claim 9, wherein the controller is programmed to place the controllable valve in the first position for a first period of time followed by placing the controllable valve in the second position for a second period of time that is at least about 24 times as long as the first period of time.

11. (previously presented) The water filtration apparatus of claim 10, wherein the first period of time is about ten minutes, and the second period of time is adjustable between about four hours and about forty-eight hours.

12. (cancelled)

13. (previously presented) An aeration tank control valve assembly for an aeration tank, the aeration tank comprising:

a fluid inlet;

a fluid outlet;

a diffuser located within the aeration tank and communicating with the fluid inlet;

a pick-up tube located within the aeration tank and communicating with the fluid outlet, the aeration control valve assembly comprising:

a valve housing, portions of the valve housing defining a flow passage that is connectable to an interior of the aeration tank;

a source of compressed oxidizing gas;

a bleed-off tube that extends into the aeration tank and that communicates with the valve housing;

a first valve connected to the valve housing;

a second valve located within the valve housing in communication with the first valve, the second valve having a first position to open communication between the flow passage and the aeration tank and to open communication between the bleed-off tube and a drain and a second position to close such communication, wherein the first valve has a first position connecting the source of compressed oxidizing gas to the flow passage, and a second position closing the source of compressed oxidizing gas from the flow passage and opening the flow passage to an atmospheric exhaust, the second valve being operated by gas pressure from the source of compressed oxidizing gas in the flow passage to open communication between the source of compressed oxidizing gas and the aeration tank;

a controllable actuator operatively connected to at least the first valve and having a first state for causing at least the first valve to assume its first position to provide oxidizing gas to the second valve, the second valve moving to its first position in response to the oxidizing gas being provided to the second valve, the controllable actuator having a second state for causing the first valve to assume its second position and allowing system pressure in the bleed-off tube to cause the second valve to move to its second position, to close communication between the bleed-off tube and the drain, wherein the controllable actuator is operable to repeatedly switch between the first state and the second state.

14. (previously presented) The aeration tank control valve assembly of claim 13, wherein the pick-up tube extends through the diffuser into the aeration tank.

15. (previously presented) The aeration tank control valve assembly of claim 13, wherein the bleed-off tube extends through the diffuser.

16. (previously presented) The aeration tank control valve assembly of claim 13, wherein the source of compressed oxidizing gas is mounted to the valve housing.

17. (previously presented) The aeration tank control valve assembly of claim 13, wherein the controllable actuator is mounted to the valve housing.

18. (previously presented) The aeration tank control valve assembly of claim 13, wherein the first valve is a solenoid valve.

19. (previously presented) The aeration tank control valve assembly of claim 13, wherein the source of compressed oxidizing gas is a compressor.

20. (previously presented) The aeration tank control valve assembly of claim 27, wherein the timer is programmable and wherein the first timing state is less than about four percent of the second timing state.

21. (previously presented) The aeration tank control valve assembly of claim 27, wherein the first timing state is maintained for a period of between about five minutes and about fifteen minutes, and the second timing state is selectable and is maintained for a period of at least approximately four hours.

22. (previously presented) The aeration tank control valve assembly of claim 21, wherein the first timing state extends over a period of about ten minutes, and the second timing state is selectable and is maintained for a period of between about four hours and about forty-eight hours.

23. (previously presented) The aeration tank control valve assembly of claim 13,

wherein the second valve comprises:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the first valve is in its first position, and a second side communicating with the interior of the aeration tank via the bleed-off tube; and

a valve stem that moves with the valve piston, the valve stem having a valve seal positioned on and engagable with a valve seat, and the valve stem moved by the first valve stem to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed-off tube.

24. (previously presented) The aeration control apparatus of claim 23, wherein the valve stem is separate from and engagable with the valve piston, the valve stem comprising:

a first end engageable by the valve piston to move the valve stem with the valve piston;

a valve seal positioned on the valve stem opposite the first end of the valve stem and engagable with a valve seat;

a biasing member that biases the valve stem into engagement with the valve piston;

wherein the valve stem moves in response to the first end being engaged by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

25. (previously presented) The aeration control apparatus of claim 24, wherein the second valve further comprises:

a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston.

26. (previously presented) The aeration control apparatus of claim 25, wherein the valve stem further comprises a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat to connect the bleed-off tube to the drain when the second valve is closed and pressure in the aeration tank is sufficiently high to overcome the biasing member and unseat the valve seat from the valve seal.

27. (previously presented) The aeration tank control valve assembly of claim 13, wherein the controllable actuator is a timer, the first state is a first timing state and the second state is a second timing state.

28. (previously presented) The aeration control apparatus of claim 1, further comprising a third valve operated by the second valve to connect the bleed-off tube to the drain.

29. (previously presented) The aeration control apparatus of claim 1, wherein the first valve is an electrically-operated valve.

30. (previously presented) The aeration control apparatus of claim 1, wherein the controllable actuator is a timer, the first state is a first timing state and the second state is a second timing state.

31. (previously presented) The aeration control apparatus of claim 1, wherein the fluid is water.

32. (previously presented) The aeration control apparatus of claim 1, wherein the supply of fluid is a well or a water main.

33. (previously presented) The aeration control apparatus of claim 1, wherein the source of compressed gas is a canister of compressed oxygen-rich gas.

34. (previously presented) The aeration control apparatus of claim 4, wherein the controllable actuator is operatively connected to the compressor and causes, in the first state, compressed oxidizing gas to flow to the first valve and in the second state stops oxidizing gas from flowing to the first valve.

35. (previously presented) The aeration control apparatus of claim 8, wherein the valve stem is separate from and engagable with the valve piston, the valve stem comprising:

a first end engageable by the valve piston to move the valve stem with the valve piston; and

a valve seal positioned on the valve stem opposite the first end of the valve stem and engagable with a valve seat;

wherein the valve stem moves in response to the first end being engaged by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

36. (previously presented) The aeration control apparatus of claim 35, wherein the second valve further comprises a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston.

37. (previously presented) The aeration control apparatus of claim 36, wherein the valve stem further comprises a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat to connect the bleed-off tube to the

drain when the second valve is closed and pressure in the aeration tank is sufficiently high to overcome the biasing member and unseat the valve seat from the valve seal.

38. (cancelled)

39. (previously presented) The fluid filtration apparatus of claim 9, wherein the valve stem is separate from and engagable with the valve piston, the valve stem comprising:
a first end engageable by the valve piston to move the valve stem with the valve piston; and

a valve seal positioned on the valve stem opposite the first end of the valve stem and engagable with a valve seat; and

wherein the valve stem moves in response to the first end being engaged by the valve piston to disengage the valve seal from the valve seat to open the interior of the aeration tank to the drain through the bleed off tube.

40. (previously presented) The fluid filtration apparatus of claim 39, wherein the second valve further comprises a biasing member that biases the valve stem into engagement with the valve piston.

41. (previously presented) The fluid filtration apparatus of claim 40, wherein the valve stem further comprises a pressure receiving surface usable to move the valve stem against the biasing member, such that, when the second valve is closed, pressure within the aeration tank that is sufficiently high enough to overcome the biasing member acts on the pressure receiving surface to move the valve seal away from the valve seat to connect the bleed off tube to the drain.

42. (previously presented) The fluid filtration apparatus of claim 9, wherein the source of compressed gas is a compressor.

43. (previously presented) The fluid filtration apparatus of claim 9, wherein the source of compressed gas is a canister of compressed oxygen-rich gas.

44. (previously presented) The fluid filtration apparatus of claim 9, wherein the controllable valve is a solenoid valve.

45. (Amended) An aeration control apparatus, connectable between an aeration tank, a source of compressed oxidizing gas and a drain of a fluid filtration system; the aeration control apparatus comprising:

a first valve;
a second valve downstream from the first valve; and
a controllable actuator operatively connected to at least the first valve, wherein:
the first valve is displaceable between a first position where the second valve is disconnected from the source of compressed oxidizing gas and is connected to an ambient atmosphere and a second position where the second valve is connected to the source of compressed oxidizing gas;

the second valve is displaceable from a third position where a flow passage between the first valve and the aeration tank is closed to a fourth position where the flow passage between the first valve and the aeration tank is open;

the controllable actuator, when in a first state, operates the first valve to displace the first valve from the first position into the second position, and, when in a second state, does not operate the first valve, such that the first valve is in, or returns from the second position to, the first position, wherein the timercontrollable actuator is operable to repeatedly switch between the first timing-state and the second timing-state; and

upon the first valve being displaced into the second position to connect the source of compressed oxidizing gas to the second valve, a pressure of the compressed oxidizing gas supplied by the source of compressed oxidizing gas displaces the second valve from the third position to the fourth position to allow the compressed oxidizing gas to enter the aeration tank.

46. (previously presented) The aeration control apparatus of claim 45, further comprising:

a third valve that is displaceable between a fifth position where the aeration tank is disconnected from the drain and a sixth position where the aeration tank is connected to the drain, wherein the second valve, when displaced from the third position to the fourth position, displaces the third valve from the fifth position to the sixth position.

47. (previously presented) The aeration control apparatus of claim 46, wherein the third valve is displaceable by a gas pressure within the aeration tank, when the gas pressure is above a predetermined value, from the fifth position to the sixth position to connect the aeration tank to the drain, independently of the second valve being displaced from the third position to the fourth position, to reduce the gas pressure within the aeration tank to at most the predetermined value.

48. (previously presented) The aeration control apparatus of claim 45, wherein the first valve is a solenoid valve.

49. (previously presented) The aeration control apparatus of claim 45, wherein the source of compressed oxidizing gas is a canister of compressed oxygen-rich gas.

50. (previously presented) The aeration control apparatus of claim 45, wherein the source of compressed oxidizing gas is a compressor.

51. (previously presented) The aeration control apparatus of claim 50, wherein the compressor is mounted to the aeration control apparatus.

52. (previously presented) The aeration control apparatus of claim 50, wherein the compressor is operably connected to the controllable actuator, such that, when the controllable actuator is in the first state, the compressor is operated to supply compressed oxidizing gas to the first valve and, when the controllable actuator is in the second state, the compressor is not operated.

53. (previously presented) The aeration control apparatus of claim 45, wherein the controllable actuator is a timer, the first state is a first timing state and the second state is a second timing state.

54. (previously presented) The aeration control apparatus of claim 53, wherein the first timing state is less than about four percent of the second timing state.

55. (previously presented) The aeration control apparatus of claim 53, wherein the first timing state is maintained for a period of between about five minutes and about fifteen minutes.

56. (previously presented) The aeration control apparatus of claim 53, wherein the second timing state is maintained for at least approximately four hours.

57. (previously presented) The aeration control apparatus of claim 53, wherein the second timing state is maintained for at most approximately forty-eight hours.

58. (previously presented) The aeration control apparatus of claim 53, wherein the second timing state is maintained for a selectable period.

59. (previously presented) The aeration control apparatus of claim 34, wherein the timer has a programmable period over which the second timing state is maintained.

60. (Amended) The aeration control apparatus of claim 45, wherein the second valve comprises:

a valve piston that moves from the third position to the fourth position, the valve piston having:

a first side that is exposed to the source of compressed oxidizing gas when the first valve is in the second position, and

a second side that is in communication with the aeration tank via a thirdsecond flow passage.

61. (Amended) The aeration control apparatus of claim 5060, wherein the second valve further comprises a third valve, the third valve comprising:

a valve stem having a first end engagable by the valve piston, the valve stem moved from the fifth position to the sixth position by the valve piston moving from the third position to the fourth position; and

a valve seal positioned on the valve stem opposite the first end and engagable with a valve seat, the valve seal disengaging from the valve seat in response to the first end of the valve stem being engaged by the valve piston, to connect the aeration tank, via the thirdsecond flow passage, to the drain.

62. (previously presented) The aeration control apparatus of claim 61, wherein the second valve further comprises a biasing member that biases the valve stem into engagement with the valve piston.

63. (Amended) The aeration control apparatus of claim 62, wherein the valve stem has a pressure receiving surface, the valve stem moving against the biasing member when a pressure

within the aeration tank that is greater than a predetermined value acts against the pressure receiving surface, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain via the ~~third~~second flow passage, such that the pressure within the aeration tank is reduced.

64. (Amended) The aeration control apparatus of claim 45, wherein the second valve comprises:

a valve piston that moves from the third position to the fourth position, the valve piston having:

a first side that is exposed to the gas source when the first valve is in the second position, and

a second side that is in communication with the aeration tank via a ~~third~~second flow passage;:

a valve stem that moves with the valve piston such that the valve stem moves from a fifth position to a sixth position when the valve piston moves from the third position to the fourth position; and

a valve seal positioned on the valve stem that disengages from the valve seat in response to the valve stem moving from the fifth position to the sixth position to connect the aeration tank, via the ~~third~~second flow passage, to the drain.

65. (previously presented) The aeration control apparatus of claim 64, wherein the second valve further comprises biasing member that biases the valve stem into engagement with the valve piston.

66. (Amended) The aeration control apparatus of claim 65, wherein the valve stem has a pressure receiving surface, the valve stem moving against the biasing member when a pressure within the aeration tank that is greater than a predetermined value acts against the pressure receiving surface, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain via the ~~third~~second flow passage, such that the pressure within the aeration tank is reduced.

67. (Amended) A water filtration apparatus usable to remove oxidizable contaminants from a fluid containing such oxidizable contaminants, comprising:

an aeration tank;

a drain line;

a source of compressed oxidizing gas;

a controllable valve that controllably connects the source of compressed oxidizing gas to a second valve, the second valve operable by pressure of the compressed oxidizing gas supplied by the source of compressed oxidizing gas to open a first flow passage between the source of compressed oxidizing gas and the aeration tank;

an actuator operably connected to the controllable valve to operate an actuator of the controllable valve to move the controllable valve between a first position where the compressed oxidizing gas is provided to the second valve and a second stateposition where the compressed oxidizing gas is not provided to the second valve;

wherein the second valve comprises:

a valve piston having a first side exposed to the source of compressed oxidizing gas when the controllable valve is in the second state, and a second side communicating with the aeration tank through a second flow passage, and

a valve stem that moves with the valve piston, the valve stem moving with the valve piston when the valve piston moves to open the first flow passage between the source of compressed oxidizing gas and the aeration tank.

a valve seal positioned on the valve stem and engagable with a valve seat, the valve seal disengaging from the valve seat in response to the valve stem moving with the valve piston to connect the aeration tank, via the second flow passage, to the drain.

68. (previously presented) The water filtration apparatus of claim 67, wherein:

the valve stem is separate from and engagable with the valve piston, the valve stem comprising a first end engageable by the valve piston to move the valve stem with the valve piston; and

the valve seal is positioned on the valve stem opposite the first end of the valve stem.

69. (Amended) The water filtration apparatus of claim 3568, wherein the second valve further comprises a biasing member positioned between the valve piston and the valve stem to bias the valve stem into engagement with the valve piston.

70. (previously presented) The water filtration apparatus of claim 69, wherein the valve stem further comprises a pressure receiving surface to cause the valve stem to move against the biasing member forming a pressure relief valve, so that excess pressure within the aeration tank will cause the valve seal to move away from the valve seat to connect the bleed-off tube to the

drain when the second valve is closed and pressure in the aeration tank is sufficiently high to overcome the biasing member and unseat the valve seat from the valve seal.

71. (previously presented) The water filtration apparatus of claim 67, wherein the actuator is operably connected to the source of compressed oxidizing gas to turn the source of compressed oxidizing gas on and off as the first valve is placed in the first and second positions, respectively.

72. (Amended) The water filtration apparatus of claim 67, wherein the actuator is programmable to place the controllable valve in the first position for a first period of time and to place the controllable valve in the second stateposition for a second period of time, the second period of time being at least about 24 times as long as the first period of time.

73. (previously presented) The water filtration apparatus of claim 73, wherein the first period of time is about ten minutes, and the second period of time is adjustable between about four hours and about forty-eight hours.

74. (Amended) An aeration tank control valve assembly usable with an aeration tank, comprising:

an aeration head having a base that mounts to an opening in the aeration tank, the aeration head having a water inlet and a water outlet that communicate with the opening in the aeration tank;

a diffuser supported at the base of the aeration head in communication with the water inlet and the aeration tank;

a pick-up tube communicating with the aeration head water outlet and the aeration tank;

a valve housing mounted to the aeration head, wherein portions of the valve housing and the aeration head define a flow passage that communicates with the aeration tank;

a gas source supplying compressed oxidizing gas;

a bleed-off tube which extends into the aeration tank and which communicates with the valve housing;

a first valve connected to the housing;

a second valve located within the valve housing and communicating with the first valve;

a third valve; and

an actuator operatively connected to at least the first valve, wherein:

the first valve is displaceable between a first position disconnecting the second valve from the gas source and opening the flow passage to an atmospheric exhaust and a second position connecting the second valve to the gas source;

the second valve is displaceable between a third position that closes the flow passage to disconnect the aeration tank from the first valve and a fourth position that opens the flow passage to connect the first valve and the aeration tank, gas pressure from the gas source moving the second valve from the third position to the fourth position when the first valve is in the second position;

the third valve is displaceable between a fifth position that disconnects the bleed-off tube and the drain and a sixth position that connects the bleed-off tube and the drain, the second valve, when displaced from the third position to the fourth position, displacing the third valve from the fifth position to the sixth position;

the actuator, when in a first state, operates the first valve to displace the first valve from the first position into the second position, and, when in a second state, does not operate the first valve, such that the first valve is in, or returns from the second position to, the first position, wherein the actuator is operable to repeatedly switch between the first state and the second state.

75. (previously presented) The aeration tank control valve assembly of claim 74, wherein the pick-up tube extends through the diffuser into the aeration tank.

76. (previously presented) The aeration tank control valve assembly of claim 74, wherein the bleed-off tube extends through the diffuser and the aeration head.

77. (previously presented) The aeration tank control valve assembly of claim 74, wherein the gas source is a compressor.

78. (previously presented) The aeration tank control valve assembly of claim 77, wherein the compressor is operably connected to the actuator, such that, when the actuator is in the first state, the compressor is operated to supply compressed oxidizing gas to the first valve and, when the timer is in the second state, the compressor is not operated.

79. (previously presented) The aeration tank control valve assembly of claim 74, wherein the first state is maintained for a period that is less than about four percent of a period over which the second state is maintained.

80. (previously presented) The aeration tank control valve assembly of claim 74, wherein the first state is maintained for a period of between about five minutes and about fifteen minutes.

81. (previously presented) The aeration tank control valve assembly of claim 80, wherein the second state is maintained for at least approximately four hours.

82. (previously presented) The aeration tank control valve assembly of claim 80, wherein the second state is maintained for at most approximately forty-eight hours.

83. (previously presented) The aeration tank control valve assembly of claim 74, wherein the actuator is programmable to select the period over which the second state is maintained.

84. (previously presented) The aeration tank control valve assembly of claim 74, wherein the second valve comprises:

a valve piston that moves from the third position to the fourth position, the valve piston having:

a first side that is exposed to the gas source when the first valve is in the second position, and

a second side that is in communication with the aeration tank the interior of the air tank by way of the bleed-off tube; and

the third valve, which comprises:

a valve stem having a first end engagable by the valve piston, the valve stem moved from the fifth position to the sixth position by the valve piston moving from the third position to the fourth position, and

a valve seal positioned on the valve stem opposite the first end and engagable with a valve seat, the valve seal disengaging from the valve seat in response to the first end of the valve stem being engaged by the valve piston, to open the interior of the aeration tank to the drain through the bleed-off tube; and

a biasing member that biases the valve stem into engagement with the valve piston.

85. (previously presented) The aeration control apparatus of claim 84, wherein the valve stem has a pressure receiving surface, the valve stem moving against the biasing member when a pressure within the aeration tank that is greater than a predetermined value acts against the pressure receiving surface, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain bleed-off tube, such that the pressure within the aeration tank is reduced.

86. (Amended) A method for recharging an aeration tank with an amount of compressed, oxygen-containing gas, comprising:

placing, during a first period of time, at least a controllable first valve into a first position to supply compressed oxygen-containing gas to a second valve;

applying the supplied compressed oxygen-containing gas against a first portion of the second valve to move the second valve to open a first flow passage;

moving a third valve, in response to moving the second valve, to connect the aeration tank, through a second flow passage, to a drain line;

supplying the compressed oxygen-containing gas to the aeration tank through the first flow passage and venting at least one of used gas and aerated fluid from the aeration tank through the second flow passage to the drain line while the controllable first valve is in the first position;

placing, during a second period of time following the first period of time, at least the controllable first valve into a second position so that the compressed oxygen-containing gas is not supplied to the second valve; and

applying pressure of the supplied compressed oxygen-containing gas contained within the aeration tank to the second portion of the second valve to return the second valve to a position where the first flow passage is closed, such that a new supply of the compressed oxygen-containing gas is contained within the aeration tank as the amount of compressed oxygen-containing gas.

87. (Amended) The method of claim 86, wherein:

the first portion of the second valve is a valve piston; and
applying the compressed oxygen-containing gas against the first portion of the second valve to move the second valve to open the first flow passage comprises applying the compressed oxygen-containing gas against a first side of the valve piston of the second valve to move the valve piston to open the first flow passage;

88. (Amended) The method of claim 87, wherein applying pressure of the supplied compressed oxygen-containing gas contained within the aeration tank to the second valve to return the second valve to the position where the first flow passage is closed comprises:

connecting the first side of the piston to an atmospheric vent; and
applying pressure of the supplied compressed oxygen-containing gas contained within the aeration tank to a second side of the valve piston opposite the first side of the valve piston to return the valve piston to the position where the first flow passage is closed;

89. (previously presented) The method of claim 86, wherein:

the second valve comprises a piston;
the third valve comprises a valve stem positioned within the second valve, the valve stem having one end engagable with the piston and a valve seal at the other end, the valve seal engagable with a valve seat to disconnect the aeration tank from the drain line; and
moving the third valve, in response to moving the second valve, to connect the aeration tank, through the second flow passage, to the drain line comprises moving the valve stem in response to moving the piston to disengage the valve seal from the valve seat to connect the aeration tank, through the second flow passage, to the drain line.

90. (previously presented) The method of claim 86, further comprising venting excess pressure in the aeration tank, if the aeration tank has an internal pressure that is greater than a predetermined value, by moving the third valve in response to the internal pressure being greater than the predetermined value to connect the aeration tank, through the second flow passage, to the drain line.

91. (previously presented) The method of claim 90, wherein:

the second valve comprises a piston;
the third valve comprises a valve stem positioned within the second valve, the valve stem having one end engagable with the piston, a valve seal at the other end and a pressure receiving surface, the valve seal engagable with a valve seat to disconnect the aeration tank from the drain line; and
moving the third valve in response to the internal pressure being greater than the predetermined value to connect the aeration tank to the drain line comprises applying aeration tank pressure to the pressure receiving surface of the valve stem to move the valve stem away

from the piston, such that the valve seal disengages from the valve seat to connect the aeration tank to the drain line via the second flow passage.

92. (previously presented) The method of claim 86, wherein placing, during the first period of time, at least the controllable first valve into the first position to supply compressed oxygen-containing gas to the second valve comprises activating an actuator of the controllable first valve to move the first valve from the second position to the first position.

93. (previously presented) The method of claim 92, wherein placing, during the second period of time following the first period of time, at least the controllable first valve into the second position so that the compressed oxygen-containing gas is not supplied to the second valve comprises deactivating the actuator to move the first valve from the first position to the second position.

94. (previously presented) The method of claim 86, further comprising controllably supplying the compressed oxygen-containing gas from a controllable source of compressed oxygen-containing gas.

95. (previously presented) The method of claim 94, wherein controllably supplying the compressed oxygen-containing gas from a controllable source of compressed oxygen-containing gas comprises activating the controllable source of compressed oxygen-containing gas during the first period of time so that the compressed oxygen-containing gas is supplied to the first valve during the first period.

96. (previously presented) The method of claim 92, wherein controllably supplying the compressed oxygen-containing gas from a controllable source of compressed oxygen-containing gas comprises deactivating the controllable source of compressed oxygen-containing gas during

Applicant: Edward T. Maas
Application No.: 10/091,170
Art Unit: 1724

the second period of time so that the compressed oxygen-containing gas is not supplied to the first valve during the second period.

97. (previously presented) A method for removing oxidizable contaminants from a supply of fluid containing such oxidizable contaminants, comprising:

charging the aeration tank with the amount of compressed, oxygen-containing gas using the method of claim 86;

supplying fluid containing oxidizable contaminants into the aeration tank such that the supplied fluid passes through the new supply of compressed oxygen-containing gas within the aeration tank to oxidize at least a portion of the oxidizable contaminants contained in the supply of fluid; and

providing the supplied fluid from the aeration tank to a filter to remove the oxidized oxidizable contaminants from the supply of fluid.